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APPLICATION NO.	FILING DATE	FIRST NAME OF INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 451,979	11 30 1999	KATSUMI SAMESHIMA	362-39	9727

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GERALD T BODNER ESQ
HOFFMANN AND BARON LLP
6900 JERICHO TURNPIKE
SYOSSET, NY 11791

EXAMINER

LOUIE, WAI SING

ART UNIT PAPER NUMBER

2814

DATE MAILED: 04 24 2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/451,979

Applicant(s)

SAMESHIMA, KATSUMI

Examiner

Wai-Sing Louie

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement (PTO-144) (Paper No. _____)
- 4) ☐ Interview Summary (PTO-413) (Paper No. _____)
- 5) ☐ Notice of Informal Patent Application (PTO-152) (Paper No. _____)

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Aoki et al. (US 6,297,085).

With regard to claims 1-4, Aoki et al. disclose a ferroelectric memory (col. 3, line 40 to col. 9, line 68 and fig. 17) comprising:

- An insulation film 40 having a concave portion 12 at a top surface;
- A laminated body obtained by laminating a plurality of layers on the top surface of the concave portion of the plurality of layers corresponding to a region other than the concave portion, which is brought into contact with a bottom surface of the concave portion, a

ferroelectric layer 17 formed on the lower electrode 6 and an upper electrode layer 18 formed on the ferroelectric layer 17, where a portion of the lower electrode layer 6 protrude outward from an inner peripheral edge forming the concave portion 12, and a side of the portion of the lower electrode layer 6, a side of the ferroelectric layer 17 and a side of the upper electrode layer 18 are flush with each other (fig. 17);

- A film 20 formed in a bottom of the hollow 12 and separating between the insulating film 40 and the lower electrode layer 6 (fig. 17);
- The lower electrode layer 6 includes a first electrode portion formed at the corner of the hollow 12 and a second electrode portion formed on the first electrode portion (fig. 17);

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (US

top surfaces of ferroelectric memory device and the insulating layer are planarized flush with

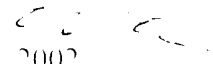
each other. However, Aoki et al. disclose the ferroelectric memory device in an embodiment having the lower electrode layer 6, the ferroelectric layer 17, and the upper electrode layer 18 etched flush on the side surfaces and planarized flush on the top surface (fig. 2D). It is common in the art to deposit an insulating layer on top of the Si substrate to insulate the ferroelectric memory device and planarizing flush on the top surfaces. Therefore, it is obvious to have a cubical ferroelectric memory device, it is merely a design choice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (703) 305-0474. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



WSL - 
April 22, 2002